## APPENDIX B.

Table B.1 Downs Black Quality Assessment

|   | Study (Last name, publication year) |         |            |            |             |                 |            |            |           |            |           |                 |           |            |              |                 |
|---|-------------------------------------|---------|------------|------------|-------------|-----------------|------------|------------|-----------|------------|-----------|-----------------|-----------|------------|--------------|-----------------|
| Checklist for measuring study quality   | Allman-Farinelli<br>2016            | An 2013 | Chung 2016 | Doyle 2008 | Godino 2016 | Hutchesson 2016 | Jones 2014 | Kulik 2015 | Lana 2014 | Laska 2016 | Leme 2016 | Napolitano 2014 | Nawi 2015 | Smith 2014 | Svetkey 2015 | Whittemore 2013 |
| Total Score (out of 31)   | 24                                  | 17      | 13         | 20         | 24          | 15              | 15         | 19         | 18        | 22         | 19        | 16              | 16        | 20         | 21           | 18              |
| Reporting   |                                     | - 1     | - 10       |            |             | 10              | - 10       |            | -10       |            |           |                 |           |            |              | -10             |
| 1. Is the hypothesis/aim/objective of the   | 1                                   | 1       | 0          | 1          | 1           | 1               | 1          | 1          | 1         | 1          | 1         | 1               |           | 1          | 1            | 1               |
| study clearly described?  2. Are the main outcomes to be measured clearly described in the Intro or Methods                                   | 1                                   |         | 0          | 1          | 1           | 1               | 1          | 1          | 1         | 1          | -         | -               | 0         | 1          | 1            | 1               |
| section?  | 1                                   | 1       | 1          | 1          | 1           | 1               | 1          | 1          | 1         | 1          | 1         | 1               | 1         | 1          | 1            | 1               |
| 3. Are the characteristics of the patients included in the study clearly described?   | 1                                   | 1       | 1          | 1          | 1           | 0               | 1          | 1          | 1         | 1          | 1         | 1               | 1         | 1          | 1            | 1               |
| 4. Are the interventions of interest clearly described?   | 1                                   | 1       | 1          | 1          | 1           | 1               | 1          | 1          | 1         | 1          | 1         | 1               | 0         | 1          | 1            | 1               |
| 5. Are the distributions of principal confounders in each group of subjects to be compared clearly described?                                 | 1                                   | 1       | 1          | 1          | 1           | 0               | 1          | 1          | 1         | 1          | 1         | 1               | 1         | 1          | 1            | 1               |
| 6. Are the main findings of the study   |                                     |         |            |            | 1           |                 |            |            |           |            |           |                 |           |            |              |                 |
| clearly described?  7. Does the study provide estimates of the  | 1                                   | 1       | 1          | 1          | 1           | 1               | 1          | 1          | 1         | 1          | 1         | 1               | 1         | 1          | 1            | 1               |
| random variability in the data for the main outcomes?   | 1                                   | 1       | 0          | 1          | 1           | 1               | 1          | 1          | 1         | 1          | 1         | 1               | 1         | 1          | 1            | 1               |
| 8. Have all the important adverse events that may have been a consequence been reported?  | 0                                   | 0       | 0          | 0          | 1           | 0               | 0          | 0          | 0         | 1          | 1         | 0               | 0         | 1          | 1            | 0               |
| 9. Have the characteristics of patients lost to follow-up been described?   | 1                                   | 0       | 1          | 0          | 1           | 1               | 0          | 1          | 1         | 1          | 1         | 0               | 1         | 1          | 1            | 1               |
| 10. Have actual probability values been reported for the main outcomes except where the probability was less than 0.001?                      | 1                                   | 1       | 0          | 1          | 1           | 1               | 1          | 1          | 0         | 1          | 1         | 0               | 1         | 1          | 1            | 1               |
| External Validity   |                                     |         |            |            |             |                 |            |            |           |            |           |                 |           |            |              |                 |
| 11. Were the subjects asked to participate in the study representative of the entire population from which they were recruited?               | 1                                   | 1       | 0          | 0          | 0           | 1               | 0          | 0          | 1         | 0          | 0         | 0               | 1         | 1          | 0            | 0               |
| 12. Were those subjects who were prepared to participate representative of the entire population from which they were recruited?              | 0                                   | 0       | 0          | 0          | 0           | 0               | 0          | 0          | 0         | 0          | 0         | 0               | 0         | 0          | 0            | 0               |
| 13. Were the staff, places, and facilities where the patients were treated, representative of the treatment the majority of patients receive? | 1                                   | 0       | 0          | 0          | 1           | 0               | 0          | 0          | 0         | 0          | 0         | 0               | 0         | 0          | 0            | 0               |
| Internal Validity - bias  14. Was an attempt made to blind study participants to the intervention they have received?                         | 1                                   | 0       | 0          | 0          | 0           | 1               | 0          | 0          | 0         | 0          | 0         | 0               | 0         | 0          | 0            | 0               |
| 15. Was an attempt made to blind those measuring the main outcomes of the intervention?   | 1                                   | 0       | 0          | 1          | 1           | 1               | 0          | 0          | 0         | 0          | 1         | 0               | 0         | 0          | 0            | 0               |
| 16. If the results of the study were based on "data dredging" was this made clear?  | 1                                   | 1       | 1          | 1          | 1           | 1               | 1          | 1          | 1         | 1          | 1         | 1               | 1         | 1          | 1            | 1               |

| 17. In trials and cohort studies, do the      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| analyses adjust for different lengths of      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| follow-up of patients or in case-control      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| studies, is the time period between the       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| intervention and outcome the same for         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| cases and controls?                           | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 18. Were the statistical tests used to assess |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| the main outcomes appropriate?                | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 19. Was compliance with the                   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| intervention(s) reliable?                     | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 20. Were the main outcome measures used       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| accurate (valid and reliable)?                | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Internal Validity - confounding               |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 21. Were the patients in different            |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| intervention groups or were the cases and     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| controls recruited from the same              |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| population?                                   | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 |
| 22. Were study subjects in different          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| intervention groups or were the cases and     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| controls recruited over the same period of    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| time?   | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 23. Were study subjects randomized to         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| intervention groups?                          | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 |
|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 24. Was the randomized intervention           |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| assignment concealed from both patients       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| and health care staff until recruitment was   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| complete and irrevocable?                     | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 25. Was there adequate adjustment for         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| confounding in the analyses from which        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| the main findings were drawn?                 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 |
| 26. Were losses of patients to follow-up      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| taken into account?                           | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 |
| Power   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 27. Did the study have sufficient power to    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| detect a clinically important effect where    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| the probability value for a difference being  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| due to chance is less than 5%?                | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 |
| que to chance is less than 5%!                | U | U | U | 1 | I | U | U | U | 1 | 1 | U | U | I | I | 1 | U |